Who Eats What?

(Producers and Consumers)

Materials

- *Everglades* by Jean Craighead George
- Chart paper
- Chalk or dry erase board
- Chalk or dry erase markers
- Computer with internet access
- Pencil
- Journal
- Project materials (as determined by each student)

Which habitat video: Sawgrass Prairie

Subject: Reading, Writing, Ecology, Biology: Animals,

Biology: Plants

Duration: 2-3 hours or class periods

Group Size: Up to 24 (4-8 breakout groups)

Setting: Classroom

Grade: 4-6

Standards:

Common Core: LACC.4.RI.1.3, LACC.4.W.1.2, LACC.5.RI.1.3, LACC.5.W.1.2, LACC.6.L.3.6, LACC.6.W.1.2

NGSSS: SC.4.L.17.2, SC.4.L.17.3, SC.4.L.17.4, SC.7.L.17.1

Vocabulary: sawgrass, producer, primary consumer, secondary consumer

Objective(s)

Guiding Question: What are the differences between producers and consumers?

Critical Content: Learn how energy is transferred from one level of the food chain to the next.

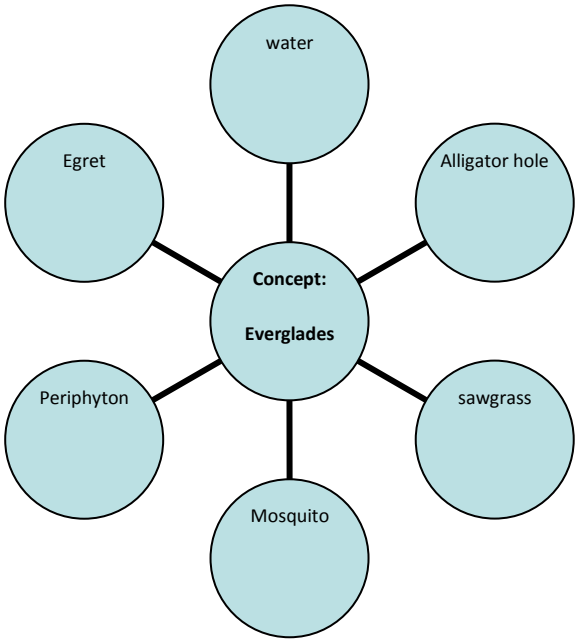
Student Objectives: Students will design and construct a food chain, differentiating between producers, primary consumers, and secondary consumers. Students will utilize animals that inhabit the sawgrass prairie within their constructed food chain.

Method Students will begin by activating their prior knowledge about food chains. They will begin their discussion about the sawgrass prairie by examining how it is described in literature. Then they will watch a video about the sawgrass prairie, taking special note of the food chain described in it. As a follow-up activity, they will work in groups to construct a food chain depicting a realistic occurrence within the sawgrass prairies of Everglades National Park.

Background The diverse populations of plants, invertebrates, fish, amphibians, and mammals in the sawgrass prairies create a unique mixture of available resources for all species to thrive. Understanding how these creatures are interconnected and their dependence on each other may be demonstrated through the use of models and diagrams, specifically of the food chain. In addition, students gain knowledge about the transfer of energy and nutrients from one food source to another.

Suggested Procedures

- Create a concept web on the board about food chains by asking students what they already know about food chains. Jot down their ideas on this concept web. (See example below.)



- Prior to viewing the video, read aloud *Everglades* by Jean Craighead George.
- Ask the class for examples of a food chain that was evident in the reading. Draw a sample food chain on chart paper. Discuss the meanings of the words producer and consumer and how energy, in the form of food, is transferred from one level of the food chain to the next.

- As a class, determine whether the items on the food chain are producers or consumers. Explain the difference between primary and secondary consumers. In groups, have students work together to identify whether the consumers on the chart paper are primary or secondary consumers. Go over their findings and correct any erroneous information.

- Explain that the class will now watch a video about the sawgrass prairie and instruct students that they are to take notes in their journals of the different animals that are identified and discussed in the video.

- Play the Sawgrass Prairie video for the class located at the following web address, stopping and replaying the part of the video that discusses food chains (time stamp 4:48-5:52): http://www.nps.gov/ever/photosmultimedia/mountainsandvalleys.htm.

- To demonstrate their knowledge of food chains in the sawgrass prairie in the Everglades, students will create and present a realistic model of a food chain that is evident in the sawgrass prairies. They will need to research one of the following animals to create an appropriate and accurate food chain.

    - *Food Chain Model* activity- Explain that students will be working in groups to create a food chain with at least three levels (producer, primary consumer, and secondary consumer). Each group's food chain must include one of the animals identified and/or discussed in the video *except* the Apple Snail and the Florida Snail Kite. Each group must choose a different animal from the list below. These food chains may be presented in any manner (i.e. diorama, poster, flow chart, etc.) however, each plant/animal must be labeled as a producer, primary consumer, or secondary consumer. Arrows must also be used to indicate the flow of energy being transferred from one level to the next. (Note: The Apple Snail and the Florida Snail Kite were not included in this list because their food chain was depicted in the video.)

Great Egret

American Alligator

Florida Gar

Florida white-tailed deer

Florida Red-bellied Turtle

Evaluation When students present their food chains, they must demonstrate a complete understanding of the differences between producers, primary consumers, and secondary consumers. They must also be able to explain the flow of energy from one level to the next.

Food Chain Model Rubric

CATEGORY	3	2	1

Food Chain Levels	The student identifies three levels of the food chain correctly.	The student only identifies two levels of the food chain correctly and the food chain is not complete.	The student only identifies one level of the food chain correctly and the food chain is incomplete.
Flow of Energy	The student created a food chain which makes sense and can accurately explain the flow of energy from one level to the next. The food chain which was created can take place in real life.	The student created a food chain, but did not accurately explain the flow of energy from one level to the next and/or the food chain does not take place in real life.	The student did not create a food chain that makes sense nor were they able to explain the flow of energy from one level to the next.
Pictures	The student included a fully-colored illustration and/or model for each level of the food chain.	The student included a fully-colored illustration and/or model for only two levels of the food chain.	The student included a fully-colored illustration and/or model for only one level of the food chain.

Extension Students can create a food web using all of the animals that were listed for the project above and include arrows indicating the transfer of energy. They must also label each animal as a primary or secondary consumer of the animals they are connected to. In addition, students can present their findings and explain the flow of energy from one species to the next.